

ORANGE PUBLIC SCHOOLS
OFFICE OF CURRICULUM AND INSTRUCTION
OFFICE OF SCIENCE

GRADE 7 SCIENCE

Pre - Assessment



School Year 2013-2014

Directions for Grade 7 Pre-Assessment

The Grade 7 Pre-Assessment is made up of multiple choice questions, and constructed response questions.

Read each question carefully, including diagrams and/or graphs. Work as rapidly as you can without sacrificing accuracy. Do not spend too much time puzzling over a question that seems too difficult for you. Answer the easier questions first; then return to the harder ones. Try to answer every question, even if you have to guess.

Where necessary, you may use scratch paper for your work. Do not use the margins of the test booklet to do scratch work.

YOU MUST RECORD YOUR ANSWERS ON THE SCANTRON SHEET PROVIDED. ALL SHORT CONSTRUCTED RESPONSES AND ESSAY RESPONSES MUST BE WRITTEN IN YOUR TEST BOOKLET.

Student Name _____

Date _____

Grade 7 – CPO Life Science

Teacher _____

SGO Pre-Assessment-Grade 7

Modified True/False

Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

- _____ 1. Control variables are those that are changed in an experiment. _____
- _____ 2. As the levels of taxonomic classification get smaller, organisms share less characteristics. _____
- _____ 3. Nucleotides in DNA are made up of a sugar, a phosphate group, and an acid. _____
- _____ 4. An ecosystem is the place where an organism lives. _____
- _____ 5. Organelles are found in the cytoplasm of a cell. _____
- _____ 6. Cell walls are only found in animal cells. _____
- _____ 7. Larger molecules can sometimes move through protein channels. _____
- _____ 8. Micrometers are the best unit of length to use when measuring bacteria. _____
- _____ 9. The cell cycle has three stages, occurring in the following order: mitosis, interphase, cytokinesis. _____
- _____ 10. A haploid cell contains half the number of chromosomes of a diploid cell, which contains a complete set of chromosomes. _____
- _____ 11. Different forms of the same genes are called chromosomes. _____

Multiple Choice

Identify the choice that best completes the statement or answers the question and write the letter of the correct answer in the blank provided.

- _____ 1. When preparing a batch of lemonade, you add 2 quarts of water. What scientific measurement are you making when you measure and add the water?
a. Area b. Mass c. Temperature d. Volume
- _____ 2. Which of the following statements about theories is CORRECT?
a. Theories are accepted as absolute truth.
b. Theories are the best explanation for something at this point in time.
c. Theories and hypotheses are the same thing.
d. Even with new evidence, a theory can never be changed.

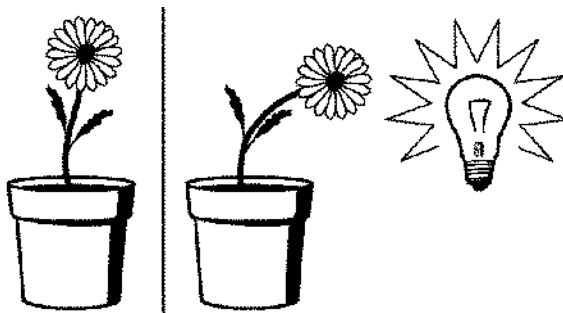
Read the following statements to answer question 3.

Jorge discovered that a piece of bread left in a sandwich bag had developed a black mold-like substance growing on its surface. Answer the following question about Jorge's discovery.

- _____ 3. In Jorge's bread mold experiment, he used the same brand of bread and sandwich bags. He placed the sealed bags in places that had varying temperatures. Temperature is the:
a. control variable. b. hypothesis. c. analysis. d. experimental variable.
- _____ 4. Which of the following is an **organ system**?
a. Esophagus b. Stomach c. Digestive d. Small intestine

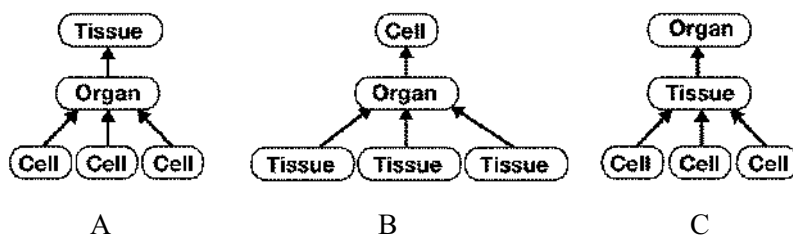
- ____ 5. Over several weeks, students calculated the mass of a plant. Each week they observed that the plant's mass increased. They concluded that ____ had occurred.
- a. reproduction b. growth c. homeostasis d. a stimulus

Figure 2-1A – Reference the figure below to answer question 6



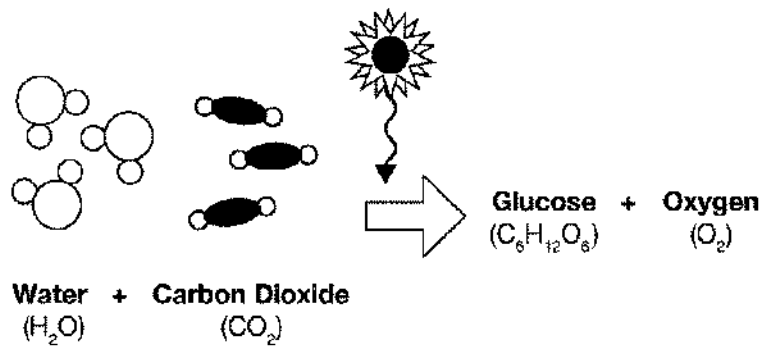
As part of an experiment, a light source is placed next to a plant. After a few days, Jesse notices the plant growing toward the light.

- ____ 6. Jesse noted the **plant's growth** towards the light in Figure 2-1A as a:
- a. response. b. stimulus. c. reaction. d. defense.
- ____ 7. The heart, brain, and stomach are made up of groups of:
- a. organisms. b. organ systems. c. tissues. d. molecules.

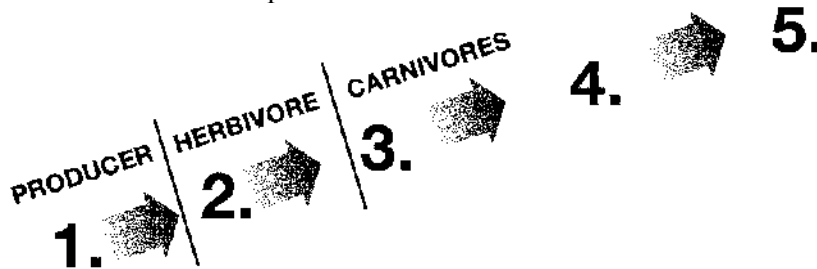


- ____ 8. Which diagram shows the correct **levels of organization** in a multicellular organism?
- a. A b. B c. C d. None of the above
- ____ 9. When the body fights off an infection its normal temperature may increase. When this happens, we know a disruption in ____ has occurred.
- a. homeostasis b. cell division c. living systems d. reproduction
- ____ 10. The level of classification of similar organisms able to produce offspring is known as:
- a. species. b. family. c. cell. d. kingdom.
- ____ 11. A(n) ____ is the **simplest** form of matter.
- a. cell b. element c. molecule d. compound
- ____ 12. Water is a(n) ____ that is made from chemically joined hydrogen and oxygen atoms.
- a. atom b. lipid c. compound d. particle

Figure 4-1A - Reference the figure below to answer questions 13 and 14



- ____ 13. Figure 4-1A shows a chemical reaction. In this chemical reaction, glucose is:
 a. a product. b. a reactant. c. a form of energy. d. a lipid.
- ____ 14. The chemical reaction shown in Figure 4-1A illustrates the process known as:
 a. cellular respiration. b. decomposition. c. photosynthesis. d. specific heat
- ____ 15. ____ are energy-rich compounds that include fats, oils, and waxes.
 a. Proteins b. Sugars c. Nucleic acids d. Lipids
- ____ 16. Which of the following statements is TRUE about the water cycle?
 a. The Sun is unimportant to the water cycle.
 b. Water is used up and not returned to the environment.
 c. Evaporation and precipitation are important parts of the water cycle.
 d. Water runoff cannot be recycled.
- ____ 17. The figure below shows an example of:

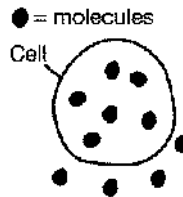


- a. a flow diagram. b. a food web. c. a food chain. d. a biosphere.
- ____ 18. Energy units in a food pyramid:
 a. are actual numbers describing how many snakes are eaten by one hawk.
 b. show relative amounts of energy that get transferred from a producer to a consumer.
 c. must always be the same, even when the animals in the diagram change.
 d. increase as you move up the food chain.
- ____ 19. Anton Van Leeuwenhoek is most famous for ____.
 a. devising the cell theory.
 b. observing single-celled protists, blood cells, and bacteria under a microscope.
 c. inventing florescent microscopy.
 d. concluding that plants and animals are made up of cells.
- ____ 20. Examples of a **prokaryotic cell** are:
 a. fungi. b. euglena. c. bacteria. d. skin cells.
- ____ 21. Which of the following statements is NOT part of the **cell theory**?

- a. Cells come only from existing cells.
- b. The basic unit of structure and function in an organism is the cell.
- c. All cells are exactly alike.
- d. All living things are made up of one or more cells.

____ 22. Molecules move from lower to higher concentrations during:
 a. diffusion. b. osmosis. c. active transport. d. protein transport.

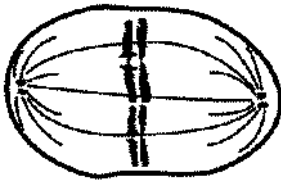
____ 23. In the diagram below, the molecules will:



- a. move out of the cell.
- b. move into the cell.
- c. move around the outside of the cell membrane but never enter the cell.
- d. stay where they are.

____ 24. A protozoan can be characterized as all of the following EXCEPT:
 a. eukaryotic. b. single-celled. c. prokaryotic. d. animal-like.

____ 25.



The stage of the cell cycle represented in the above diagram is:

- a. Prophase.
- b. Metaphase.
- c. Cytokinesis.
- d. Telophase.

____ 26. All of the of the following are true about meiosis EXCEPT:
 a. only organisms that reproduce asexually undergo meiosis.
 b. it produces cells with half the number of chromosomes of body cells.
 c. only organisms that reproduce sexually undergo meiosis.
 d. a cell undergoes two divisions in one cycle of meiosis.

____ 27. If a recessive trait is expressed in an organism's phenotype, what can you determine about its genotype?
 a. Both alleles in the genotype are recessive.
 b. At least one allele in the genotype is recessive.
 c. You cannot determine anything about the organism's genotype.
 d. Both alleles in the genotype are dominant.

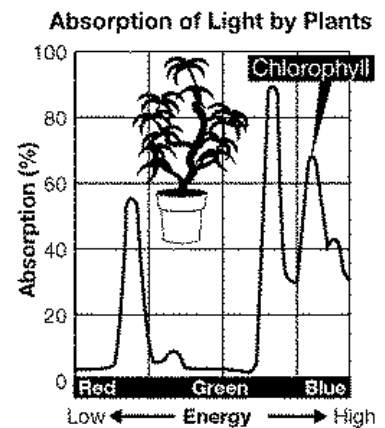
Short Answer – Answer each question in the space provided. Write legibly and in complete sentences taking care to use proper sentence structure. Address each aspect of the question in your answer

1. **EXPLAIN** how ecosystems, communities, and populations in the biosphere relate to each other.

2. According to the graph on the right:

a. What color light do plants need to grow?

b. Why do plants look green?



Essay - Answer each question in the space provided. Write legibly and in complete sentences taking care to use proper sentence structure. Address each aspect of the question in your answer.

1. **DESIGN** an experiment to test the effects of different amounts of light on pea plant growth. Your experiment is to follow the general format of the scientific method. **INCLUDE** a **labeled diagram** to show the **experimental variable** used in the experiment.

1. (continued) Use the space below for your labeled diagram.

2. There are many different types of cells but all cells share some similar parts. **DESCRIBE** 3 parts that all cells have in common. **DRAW** and **LABEL** the three parts in the empty cell.

